

Name: \_\_\_\_\_

## Chapter 9 Practice Test

**The problems on this Practice Test are very similar to the problems on the actual test.**

**Part One: Naming Polynomials:** Write each polynomial in standard form, then name by term and by degree.

1.  $6y - 11 + 3y$

2.  $-x^2 + 4 + x^2$

3.  $c^3 - 2c$

4.  $8x^2y^4 - 2x^3y^4$

5.  $\frac{88}{x}$

**Part Two: Operations with Polynomials:** Perform each operation. Write all answers in simplified, standard form.

6.  $(8x^4 + 2x^3 - 9x - 10) + (5x^3 - 2x^2 + 10x - 12)$

7.  $(-6y^3 - 9y^2 + 1) - (5y^3 - 10y - 8)$

8.  $5t^3(2t^2 - 9 + t)$

9.  $(y + 8)(y - 9)$

10.  $(2h^2 + 8)(-3h^2 - 2h)$

11.  $(2d^2 - 4d + 1)(6d - 8)$

12.  $(2x + 3y)^2$

**Part Three: Algebraic Writing:** Please answer in complete sentences using algebraic terms. Echo the prompt.

13. How many multiplications will you complete if you multiply a trinomial by a polynomial with seven terms? Explain how you arrived at this answer.

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14. After writing the polynomial in standard form, what is the first step to any factoring problem? Why should you do this first?

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**Part Four: Factoring:** Factor each polynomial as completely as possible. If the polynomial cannot be factored at all, write PRIME. BOX your final answers.

15.  $6x^2 - 8x$

16.  $x^2 + 6x + 8$

17.  $y^2 - 8y + 7$

18.  $a^2 - 3a - 40$

19.  $9u^2 - 25$

20.  $6y^2 - 38y - 144$

21.  $32b^2 - 28b + 5$

22.  $6x^4 - 9x^3 - 36x^2 + 54x$

**Part Five: Polynomial Geometry:** Read each section carefully. Annotate!

**23. The Situation:** You are designing a rectangular pool. You want the length of the pool to be three more than thrice the width.

a. The width of the pool is represented by the variable  $w$ . Write an expression for the length in terms of the width, using  $w$ .

b. Draw a diagram to represent the situation. Label all relevant parts.

c. Write a simplified expression in standard form for the perimeter of the pool.

d. Write a simplified expression in standard form for the area of the pool.